Class outline

1. Objective: get you up to speed for Session 1!
   • Excel versions and languages
   • Excel basics for ESD.70
   • Few tricks to speed up analysis
   • More learning material
Course website

http://ardent.mit.edu/real_options/ROcse_Excel_latest/Excel_Class.html

• All files posted on the web
  – Ask to transfer files manually if you cannot connect

Excel versions

• Versions currently “in use”
  – Open source: Open Office Calc (see website)

• Many, many languages
  – Chinese, English, French, Japanese, Spanish…
  – Obviously cannot support all (see website for handy tips in French and Spanish)
Recommended versions

• Class supported in Excel 2007 for PC, and Excel 2004 for Mac

• Why?
  – Excel 2007 widely used on PC
  – Excel 2008 for Mac does not support Solver and other functionalities required for class

• Make sure you have one of those installed!

• Ask your department for a free copy of software

Course Materials

• Excel spreadsheets
  – ESD70session# –1.xls : setup before the class
  – ESD70session# –2.xls : reflects all the work done in class
  – Do the exercises with me → the only way to learn
    • Cells marked as are for you to fill
  – Refer to the ESD70session# –2.xls to validate your work

• Lecture in PDF on course website
Excel basics

Open ESD70session0-1.xls

http://ardent.mit.edu/real_options/ROcse_Excel_latest/ESD 70 2007/ESD70session0-1.xls

Excel basics

• Entering numbers and formulas
• Working with multiple sheets
• Manual vs. automatic calculations
Big vs. Small setup

- Building a computer plant
- Deterministic demand projections for years 1, 2 and 3 are 300,000, 600,000, and 900,000 respectively
- No sales in year 4 or thereafter
- Plan A – a big plant; Plan B – one small plant each year;
- Plants take a few months to construct
- Big plant capacity of 900,000 with capital cost of $900 million
- Each small plant capacity of 300,000 with capital cost of $300 million
- No salvage value for Plan A; $300 million salvage value for Plan B
- Discount rate for Plan A is 9%, and 8% for Plan B
- The company will sell each computer for $2,000
- Variable cost for Plan A is $1,280 due to economies of scale; Variable cost for Plan B is $1,500
- See “Entries” Worksheet...

Entering numbers and formulas

- Click on ‘Entries’ tab
  - Fill in yellow cells as per case assumptions
  - E.g. enter “9%” in cell D3, “8%” in cell D4

- Click on ‘Plan A’ tab
  - Fill in yellow cells, guided by comments
  - Referencing fields across sheets (and files)
  - E.g. enter “1” in cell E3, “=Entries!D14*Plan A!E3” in cell E4
Manual vs. automatic calculations

• How to set it up
  – Mac: Excel ⇒ Preference ⇒ Calculations
  – PC: Excel ⇒ Excel options ⇒ Formulas

• Shortcuts
  – “F9” on PC and “command =“ on Mac

Few more Excel tricks…

• Copy and paste, paste special
• Entering Series
  – Down…
• Cell formatting
• Charts primer
• ‘$’ fixed cell references
  – Shortcuts “F4” on PC and “command T” on Mac
More learning material

- Excel 2004 for Mac:
  http://web.mit.edu/macardin/Public/docsESD70/
  DiscoveringMicrosoftOffice2004.pdf

- Excel 2007 for PC:

Next session...

We begin the main session about NPV, Sensitivity Analysis and Data Tables

TAKE A SHORT BREAK AND COME BACK AT 5h30PM!